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# A Patient Record-Filing System for Family Practice

## SUMMARY

The efficient storage and easy retrieval of quality records are a central concern of good family practice. Many physicians starting out in practice have difficulty choosing a practical and lasting system for storing their records. Some who have established practices are installing computers in their offices and finding that their filing systems are worn, outdated, and incompatible with computerized systems. This article describes a new filing system installed simultaneously with a new computer system in a family-practice teaching centre. The approach adopted solved all identifiable problems and is applicable in family practices of all sizes.

(*Can Fam Physician* 1988; 34:2303-2308.)

## RÉSUMÉ

Toute bonne pratique de médecine familiale doit avoir au centre de ses préoccupations l'efficacité de son système de classification des dossiers et leur facilité d'accès. Nombreux sont les médecins qui, dès le début de leur pratique, éprouvent des difficultés à choisir un système pratique et à long terme pour classer leurs dossiers médicaux. Plusieurs médecins dont les pratiques sont déjà établies installent maintenant des ordinateurs et constatent que leurs systèmes sont désuets, dépassés et incompatibles avec les systèmes informatiques. Cet article décrit un nouveau système de dossiers installé dans une unité d'enseignement de pratique familiale en même temps qu'un nouveau système informatique. L'approche adoptée a permis de solutionner tous les problèmes identifiés et son application convient à toutes les tailles de pratique familiale.

**Key words:** filing system, computer system, practice management

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**A**S PHYSICIANS we work with our records daily. Their pages reflect the quality of care we provide for our patients.<sup>1, 2</sup> Setting up a new filing system is a challenge to any physician starting a practice. There are few guidelines in the literature on how to approach this problem practically.

Many physicians are installing computers to improve the efficiency, productivity, and management of their practices. Practitioners considering installing computers for billing and/or storing patient information may find their filing systems hopelessly outdated and unsuited to computerized indexing. The decision to computerize requires the ultimate creation of a patient data base (a computerized list of patient data). This data base is easily accessed and accurately stored, and is thus suitable as a central master index of patients. The installation of a filing system that is compatible with such a data base will speed chart retrieval and can improve the efficiency of the office significantly.

The Herzl Family Practice Centre, a McGill University teaching unit in Montreal, recently installed a computer system. The centre books 20 000 patient visits per year and has approximately 12 000 active patient files. It was decided to replace the centre's filing system at the same time that the computer was being installed.

The author designed a filing system to meet the following objectives:

- to improve the physical state and durability of the files;
- to accelerate file retrieval and reduce misfiling;
- to retain the "family folder"<sup>3,4</sup> as the basic filing unit;
- to allow for easy identification of files from the centre's four medical teams;

- to maintain a clear distinction between hospital and family-medicine charts;
- to implement a system that is computer compatible; and
- to plan for long-term expansion.

## The Files and Colour Coding

The filing system to be replaced was 12 years old. The folders were 11 pt. (points) in thickness (about the same thickness as standard stationery-supply store buff-file folders). They were bent and frayed. File contents were stapled wherever necessary into folders, and metal paperholders were punched through the cardboard and taped over the outside. The staples tore adjacent files when files were pulled out or pushed into the cabinets.

Venturing into the corporate world to choose between what appeared to be identical components was a daunting task for a physician novice. Satisfactory colour-coded filing systems are now widely offered and are used in many practices. The business literature cites a number of advantages of colour-coded indexing.<sup>5-8</sup> Colour coding reduces misfiling; is one of the most efficient, economical, and versatile forms of signalling file location; permits fast case retrieval; and brightens the filing area, which may provide a psychological benefit.

Some manufacturers offer folders in a variety of thicknesses, others in only one. Some have a cardboard or plastic reinforcement of the leading (visible) side edge. There are a number of colours to choose from, but coloured folders do not come with plastic reinforcement. Some folders have paper labels, some plastic. Some labels delaminate prematurely, while others are guaranteed to stick indefinitely. All companies offer paperholders that can be bonded into the folder at the time of manufacture, in a variety of positions.

I recommend reinforced folders with double-thickness end tabs and with labels of Mylar or Tyvek plastic rather than paper. I chose a thicker gauge (14 pt.) buff folder made of cardboard and Mylar reinforced (Figure 1). The plastic strip is about 4 cm wide and brightly coloured. Thicker files are marginally more expensive, but the additional expense

will be offset by the longer life of the charts.

## Alphabetical as Compared to Numerical Filing

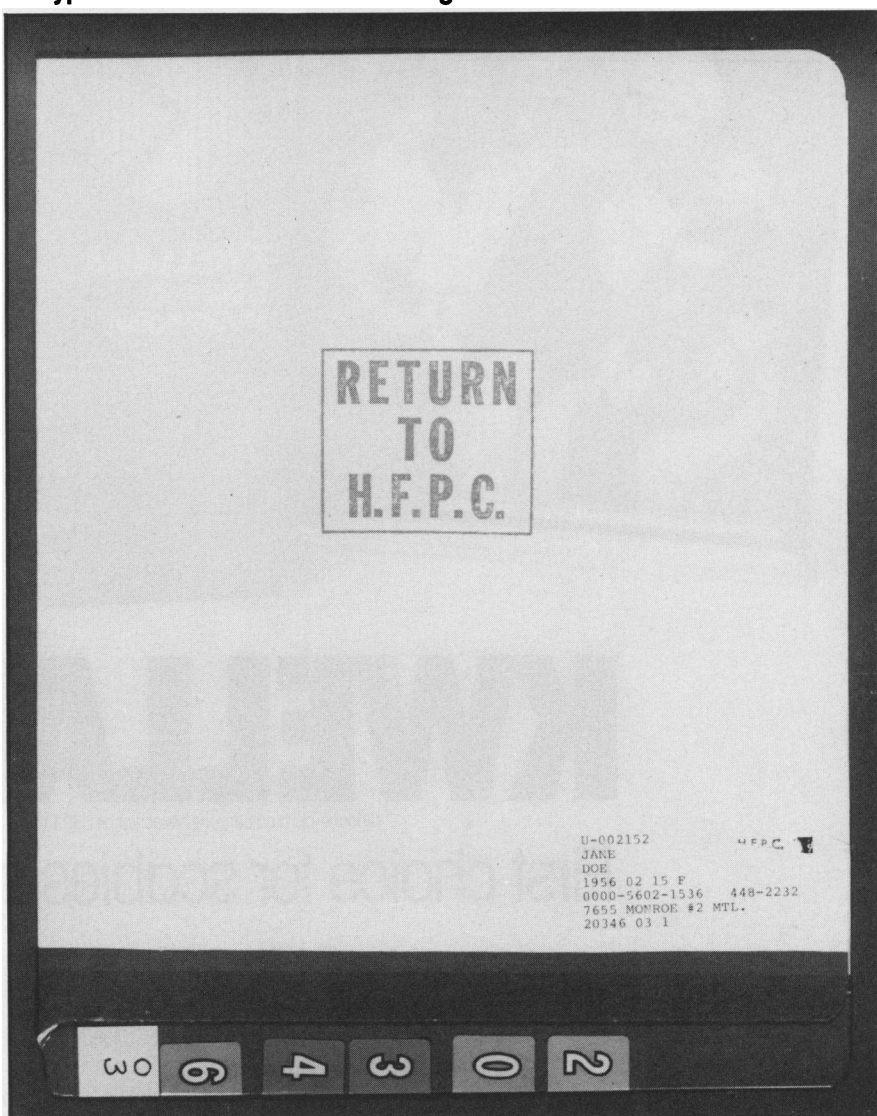
Whether one chooses an alphabetical, alpha-numerical, or numerical system of filing seems an arbitrary decision. One author<sup>9</sup> cautions that the alphabetical system lends itself readily to misfiling, with consequent problems in retrieval. She suggests a fairly simple alpha-numerical system. The alphabetical filing system has one major advantage, however: it is a one-step system. The patient gives a name and the file is pulled.

The sole disadvantage of a numerical system is that file access involves two steps: converting the name to a

number and then pulling the file. Computerization, however, inevitably involves assigning each patient a number; few personal data bases of significant size index alphabetically by name. The computer is immediately accessed when the patient presents, and the number is easily obtained from the screen.

There are other advantages to a numerical system. File access is six to eight times faster<sup>10</sup> because leafing through files is eliminated, especially where many people have the same last name. Misfiled charts are easily detected; they "stick out like sore thumbs". Finally, a numerical system meets the Centre's organizational and practice requirements (see below).

**Figure 1**  
**A Typical Chart with Numerical Coding**



The numerical system was chosen for the Centre. A unique, five-digit, colour-coded number identifies each chart (Figure 1).

## The Centre's Solution

Each practice may have certain features that need to be preserved when instituting a filing system. The Herzl Family Practice Centre requirements were as follows:

### *The team*

The centre is divided into four teams, each with approximately 3000 active patient files. The teams function as separate group practices. They are close to one another but geographically separate, with separate filing systems. The first number on the folder immediately identifies the team location and facilitates rapid retrieval.

### *The family folders*

The family folder<sup>3,4</sup> is the filing unit. All individual family-member files are placed together in a loose manilla folder. The family tree is attached to the first inner leaf of this folder. The new filing system maintains the family-record system.

### *The hospital system*

Many family-practice teaching centres located in hospitals adopt their hospital's numbering system, apparently to minimize confusion. Predictably, the records department at our hospital wanted us to number our charts with the patients' hospital numbers.

The adoption of hospital-patient numbers had three major drawbacks for our purposes. First, hospital numbers are issued successively to each new arrival. This would prevent our patients' files from being organized in family folders. Secondly, the hospital number makes no provision for team identification, and so each team would need separate folders of its own identifiable colour. Thirdly, while our charts are stored separately from the hospital charts, their 12 000 colour tabs would be spread over the 10 000 000 numbers in the hospital system. The visual benefit of a colour-coded numerical system in retrieving misfiled charts would thus be lost. We therefore insisted on a separate numerical system.

The hospital-records department was concerned that our buff-coloured folders would be indistinguishable

from the hospital charts and thus would easily be lost. Our charts have a 4-cm bright pink mylar edge, and an obviously different coloured numerical system, and so they are easily discernible from the hospital charts.

Each patient registering is issued a plastic card, which also serves as a hospital identification card. The card bears the patient's name, hospital number, date of birth, address, telephone number, and medicare number. The Family Practice Number is imprinted on the bottom right hand corner. This allows easy access to the file without the computers when a patient presents after hours to the Centre. The patient's Family Practice Number is stamped (like a credit card) onto lab requisitions. This practice simplifies filing, since it allows the chart to be located directly by number, without use of the computer.

A small label with an imprint from the plastic card is pasted onto the bottom right hand corner of the chart so that a single chart may easily be found by name in a pile of folders.

Certain companies have developed equipment that can apply pressure-sensitive colour-coded plastic labels to folders at high speed. Charts can therefore be labelled before the patient registers. Machine-readable codes (as on groceries) and a hand-held wand that identifies and records individual files are options that are also available. Their use would facilitate rapid retrieval of data from the computer by means of the folder alone.<sup>11</sup>

## An Example

An example of a computer number is: 20346-03-1. The first five digits only are displayed on the chart:

- 2 is the team number (0-9).
- 0346 is the patient's family number. The coding allows for 9999 families for each team (see below).
- 03 is the number within the family. We assign no particular number to the mother or father. The number is given according to the order in which the patient presents at the Centre. This system allows for up to 99 family members!
- 1 is the Computer Differentiating Number. This number allows us to use the preceding digits nine times. It does not appear on the chart but is retained on the computer so as to

differentiate in the long term between inactive and active patient numbers.

The numerical system described here would allow for nine teams, each with 9999 families. This potential exceeds the requirements of our Centre, and easily allows for expansion of teams and families. The numbers appearing on the chart according to colour codes are the first five digits. The visual effect and efficiency of the numerical coding is therefore preserved.

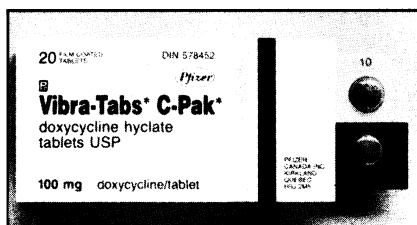
## Management and Change-Over

The ideal time to replace a filing system is at the point at which the computers are being installed and the data is being entered. Extreme care must be exercised in quality control in order to ensure that the same number that is entered on the computer is pasted onto the chart. The whole filing inventory may have to be reviewed if files are misplaced during this phase. Langemo<sup>7</sup> recommends that:

... each individual filing system be managed—as a system—by a designated individual whose responsibilities should include ensuring that the system is maintained and operated according to the way it was designed.

The person ultimately responsible for the charts should co-ordinate the changeover; he or she knows the patients and charts well and has a stake in doing an effective job.

The Herzl Family Practice Centre changeover took a month to accomplish and involved numerous actors. Two serious problems occurred. First, a few numbers were entered into the computer incorrectly at the time of changeover. These files were "lost" and had to be found manually. It is thus advisable that after each patient number is entered initially, a second person should verify the entries independently. Secondly, while the folders are embossed with positioning lines, some coloured labels were incorrectly placed. These charts had to be relabelled to correct wavy coloured bands. Better staff training could have avoided this problem.



## PRODUCT INFORMATION

### Broad-spectrum antibiotic

#### ACTION

VIBRA-TABS (doxycycline) is a broad-spectrum antibiotic, active against a wide range of Gram-negative and Gram-positive organisms. VIBRA-TABS (doxycycline) exerts its antimicrobial effect by inhibition of protein synthesis.

#### INDICATIONS AND CLINICAL USE

VIBRA-TABS (doxycycline) as VIBRA-TABS C-PAK is indicated for the treatment of:

##### Genitourinary Tract Infections:

In adult patients with urethritis, cervicitis and vaginitis with a positive test for *Chlamydia trachomatis* and/or *Ureaplasma urealyticum*, clinical resolution and absence of detectable organisms have been observed at completion of therapy with VIBRA-TABS (doxycycline). Relapses or reinfection can occur. In these cases, limited data suggest that some patients may derive clinical benefit from the administration of VIBRA-TABS (doxycycline) or an alternative therapy. The effect on long term morbidity has not been established.

#### CONTRAINDICATIONS

VIBRA-TABS (doxycycline) is contraindicated in individuals who have shown hypersensitivity to tetracyclines.

#### WARNINGS

As with other tetracyclines, VIBRA-TABS (doxycycline) may form a stable calcium complex in any bone-forming tissue, though *in vitro* it binds calcium less strongly than other tetracyclines. Though not observed in clinical studies to date, it should be anticipated that like other tetracyclines the use of VIBRA-TABS (doxycycline) during tooth development (last trimester of pregnancy, during lactation, neonatal period and early childhood) may cause discoloration of the teeth. Though more commonly associated with long term use of tetracyclines, this effect has also been known to occur after short courses.

#### PRECAUTIONS

In clinical studies to date, doxycycline administration did not lead to increased serum levels nor to an increase in the serum half-life of doxycycline in patients with impaired renal function. VIBRA-TABS (doxycycline) in normal dosage may be used to treat these patients. Although no evidence of increased toxicity has been observed in such patients, the potential for increased hepatic or other toxicity should be considered until further data on the metabolic fate of doxycycline under these conditions become available. Liver function tests should be carried out at regular intervals on patients receiving high doses for prolonged periods of time. Concurrent administration of VIBRA-TABS (doxycycline) and agents known to be hepatotoxic should be avoided if possible.

The use of antibiotics may occasionally result in overgrowth of non-susceptible organisms; thus, observation of the patient is essential. There is evidence to suggest that VIBRA-TABS (doxycycline) may have less effect on the gut flora than other tetracyclines.

Certain hypersensitive individuals may develop a photodynamic reaction to sunlight during treatment with VIBRA-TABS (doxycycline). If this or any other allergic reaction should occur, medication should be discontinued.

Increased intracranial pressure with bulging fontanelles has been observed in infants receiving therapeutic doses of tetracycline. Although the mechanism of this phenomenon is unknown, the signs and symptoms have disappeared rapidly upon cessation of treatment with no sequelae.

Esophageal injury consisting of esophagitis and esophageal ulceration have rarely been reported in patients receiving doxycycline orally. If this should occur,

VIBRA-TABS (doxycycline) should be discontinued until healing occurs. Administration of antacids and/or cimetidine has provided relief in the treatment of such cases. To reduce the risk of esophageal injury, patients should be advised to take VIBRA-TABS (doxycycline) with an adequate amount of fluid while standing or sitting upright.

#### Use in Pregnancy and Lactation:

VIBRA-TABS (doxycycline) should not be administered to pregnant and lactating women or neonates until its safety in such cases has been established beyond all reasonable doubt, unless in the judgment of the physician the potential benefit to the patient outweighs the risk to the fetus or child.

#### ADVERSE REACTIONS

As with other broad spectrum antibiotics, gastrointestinal disturbances such as nausea, vomiting and diarrhoea, as well as glossitis, stomatitis and proctitis may occur, but have rarely been sufficiently troublesome to warrant discontinuation of therapy.

Rare instances of esophagitis and esophageal ulcerations in patients receiving the capsule form of doxycycline have been reported. (See PRECAUTIONS AND DOSAGE AND ADMINISTRATION Sections.)

As with other tetracyclines, elevation of SGOT or SGPT values, anemia, neutropenia, eosinophilia, leukopenia or elevated BUN has been reported, the significance of which is not known.

#### SYMPTOMS AND TREATMENT

##### OF OVERDOSAGE

Gastric lavage if necessary.

##### DOSAGE AND ADMINISTRATION OF VIBRA-TABS C-PAK

###### ADULTS:

For treatment of uncomplicated urethral, endocervical, or vaginal infections in adults associated with *Chlamydia trachomatis* and *Ureaplasma urealyticum*: 100 mg, by mouth, twice a day for at least 10 days.

As absorption is not significantly affected by food or milk VIBRA-TABS (doxycycline) should be given with or after a meal thus minimizing the possibility of gastric upset. Antacids and iron preparations impair absorption and should not be given concomitantly to patients taking VIBRA-TABS (doxycycline).

VIBRA-TABS (doxycycline) should be given to patients with adequate amounts of fluid while standing or sitting upright to reduce the risk of esophageal injury.

Therapy should be continued after symptoms and fever have subsided. It should be noted, however, that effective antibacterial levels are usually present 24 to 36 hours following discontinuance of VIBRA-TABS (doxycycline) therapy.

No alteration in recommended dosage schedule need be made when treating patients with impaired renal function.

#### AVAILABILITY

VIBRA-TABS C-PAK contains 20 orange film coated tablets, each tablet containing doxycycline hyclate equivalent to 100 mg of doxycycline.

Intended for adult use as a 10 day treatment for urethral, endocervical, or vaginal infections associated with *Chlamydia trachomatis* and *Ureaplasma urealyticum*.

Storage: VIBRA-TABS (doxycycline) 100 mg: Protect from light.

#### PRODUCT MONOGRAPH AVAILABLE ON REQUEST.

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## Conclusions

The colour-coded numerical filing system was successfully implemented at the same time as computers were installed. The system is sturdy, the colour-coding is effective, and the family folders and team record keeping have been preserved. The filing staff express great satisfaction with the system, and the hospital records department appears to have accepted our "delinquency".

Our system allows for expansion, easy identification, and computer compatibility. It is too early, however, to realize the full benefits or negative outcomes of the change. ■

## Acknowledgements

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